month, year after year; and the physiological result of this persistent overaction of the minute renal arteries is that their muscular walls become hypertrophied. I will show you, hereafter, that a similar hypertrophy of the renal arteries occurs in other forms of chronic Bright's disease, but it is most constant and most conspicuous in the contracted granular kidney which we are now considering. The comparatively small amount of albumen in the urine, and its occasional absence in cases of contracted kidney, may be explained by the fact that, while there is but little compression of the intertubular capillaries by swollen tubes, and consequently but little passive engorgement of the Malpighian capillaries, the hypertrophied renal arteries, by their powerful contraction, prevent a too forcible influx of blood. Hence, too, it happens, that hæmorrhage into the tubes, which is so common in acute Bright's disease, rarely occurs in this chronic form of the malady.

[*To be continued.*]

EXTRACT OF AN ADDRESS

ON

UNIVERSITIES IN THEIR RELATION TO PROFESSIONAL EDUCATION.

Delivered before the St. Andrew's Graduates' Association, Saturday, February 8th, 1873.

By LYON PLAYFAIR, LL.D.,
Member of Parliament for the Universities of Edinburgh and St. Andrew's.

In medicine special schools have grown numerous, because Oxford and Cambridge neglected their duties as liberalisers and cultivators of professions. Though rivers will not flow back to the sources whence they came, yet, in the future, the sources may supply healthier waters to the streams than they have done in past times. So our English Universities, though they have lost their hold on the medical profession, may at least adjust a preparatory curriculum to suit it, and thus secure to medical students a liberal culture bearing on their future life before they begin their purely professional training.

Universities should understand that, if they desire society to uphold their ancient academic rights, they must show themselves willing to extend modern obligations to society.

I do not presume to give detailed schemes for the construction of the various academic roads which might lead through the faculty of arts to the professional faculties. For each of these would be the best adviser how the several roads should be constructed. All I venture to press is, that the roads should be sufficiently numerous not only to lead to recognised academic professions, but also to the great occupations of manufacturing and mercantile industries, which above all require to be mellowed by liberal culture.

As I have now the honour of addressing an audience chiefly composed of the medical profession, allow me to explain the attitude of hesitation, if not of opposition, which the Scotch universities have taken up in reference to a general and popular cry for a "one-portal" system of examination. This demand has risen from a just discontent with the laxity of examination on the part of some of the nineteen licensing bodies in the United Kingdom. It is contended that a single State examination would give better security for the qualifications of medical men than the separate licensing systems. No one can dispute the right of the State to fix its own standard of qualifications for licenses involving civil rights and affecting the health of its citizens. That right, as I have shown, was exercised as early as the thirteenth century, and it now receives full expression in the *Staats Examen* of Germany. But that, both in its former and present state, is a very different thing from the one-portal system which has been proposed for this country. In Germany the State examination was always supplementary to the academic curriculum. It was simply a state door through which the university trained student had to pass before he assumed civil rights of practice. But the one-portal system proposed for this country might be anterior to university or corporate graduation, so that the State license would be, instead of a supplement, a substitute for academic graduation. Any single licensing system must aim at a minimum and not at a maximum standard of qualifications. Suppose it aimed at a maximum, like the University of London, what would follow? Necessarily the ranks of the profession must remain empty. For London University, with its maximum standard, can secure annually only some thirty medical graduates from the whole of the kingdom and the colonies; while the medical register annually requires seven hundred additions. Under such a system the demand for medical men could not be supplied, and the public would suffer. Hence, clearly, the one-portal system can only prevent a man from passing in under a minimum standard, but it cannot ensure higher qualifications. Yet such a minimum plan of licensing would govern the whole medical schools of the country, as surely as the main motive wheel in a factory governs the motions of a thousand bobbins.

Under such circumstances, the ornamental degrees of universities and corporations would have no more influence on medical education as a whole, than the brightly polished brass-work on the standard of an engine has upon its motive power. The qualifications of medical men would then be exactly what the minimum involved, and, except rarely, would be no higher. For all experience teaches us that the great bulk of students, with a compulsory examination before them, concentrate their vision on that alone, and refuse to look beyond it; so that teaching schools and universities must then teach down to this minimum, and not teach up to their maximum, if they are to preserve their students from mere crammers. It is this that has rendered uniform standards of examination so fatal to intellectual development, in every country where they have been tried. It is this that has made Germany abandon its old centralised system of State examination; for it is now carried on at the seat of each university, chiefly by the professors and partly by assessors appointed by the State. Even in this modified form it has much injured medical graduation, because students work for the essential license, and neglect the mere academic honours. Germany is the typical country of universities, for it counts twenty-four of them, and these contain 20,000 matriculated students. But its principle is to give to each university a separate autonomy and the utmost liberty of teaching and examination. It preserves for the State a right of proof that these functions have been discharged efficiently when civil rights are conferred; but it carefully makes the exercise of this right a mere supplement to a well-ordered university curriculum. This is well illustrated in the Bills now before the Prussian Parliament in respect to theological studies. The State proposes to ensure that every clergyman shall possess liberal culture; and with this view, whether Protestant or Catholic, he must go through a curriculum of classics, literature, philosophy, and natural science in the universities, and not merely in special seminaries. The examination in these subjects is to be in the hands of the State, and not in those of the bishops. The curriculum of study belongs to the university, the evidence of its fruition to the State. Such paternal functions of the State, even though chiefly exercised through university professors, are rather incomprehensible to us. Doubt is expressed in Germany itself, as to whether it is wise for the State to secure its ends by examinations; for Professor Planck, in his recent rectorial address at Munich, counsels the State to seek other means for obtaining good professional men than "its narrow and doubtful" examining system. While no country in the world has benefited so much as Germany by its university system, none, except China, has suffered so much as France by giving a preponderance to examination, and subordinating to that the teaching functions of universities. I have shown fully elsewhere (*Teaching Universities and Examining Boards*, Edmonston and Douglas, Edinburgh, 1872) how France now admits that the poverty of intellect displayed during her recent crisis was the consequence of her having sacrificed the national intellect to an uniform State-examining system.

It is not easy, in the short time at my disposal, to show you how Germany has managed to reconcile free university teaching with a State-examining system, without injurious consequences to intellectual development, but this has been well done by Mathew Arnold. Certainly German ideas of examination are as opposite to those which prevail in our universities as they can well be. With us examination is the end of university life, while in Germany it is the mere test of a well ordered course of study. All *specielle vorstudien* are expressly discouraged, and the examination aims at the proof that the student has attained *das Wesentliche und Dauernde*, or a substantial and enduring result of study. Under our examining systems cram flourishes; in Germany it has little existence, for the examination, which is a subordinate function of their university system, aims at the proof of intellectual development fitted for a future career of usefulness.

Let us apply these national experiences to the satisfaction of a reasonable demand, that the medical practitioners in this country should at least possess a minimum standard of efficiency. While the State has a right to demand that, it is clearly its interest and policy to effect its purpose in such a way as will insure maximum and not minimum qualifications. It is not wise to have uniformity either in teaching or in examination; for differentiation is as important in intellectual as it is in physical life. But a one-portal system is based on uniformity, and it would effect it as surely on the student as the single hole of the wire-drawer does upon the wire drawn through it. To avoid this, we now find the one-portal system abandoned for a three-portal system, one door of entrance being proposed for each section of the United King-

dom. No doubt this is better, for it would secure at least national differentiation, though it would still cramp professional development in each section of the country. The only justification for the interference of the State is the assumed position, that the nineteen licensing bodies, by their competition, have a tendency to lower qualifications. I doubt this as a fact, but I have no doubt whatever that a downward competition would be the inevitable result of a single examining board. Though the corporations, under conjoint schemes of examination, continue to give the licence in name, they will be virtually superseded in testing the fitness of candidates to receive the titles which they confer. It does not require a sage political forecast to know that such a conjoint system possesses neither the condition of permanence nor that of strength. Coherence it cannot have, for the public would soon doubt the wisdom of continuing corporate powers when they are exercised in name and not in reality; and, as soon as the danger becomes patent, the corporations will dissolve a voluntary union which saps their existence. Unless they wake quickly to a sense of their danger, the system may be rivetted by legislative action, as it would not surprise me to find this scheme part of the plan of university reform for Ireland in the present session. The corporations are not teaching, but licensing and examining bodies; and when they resign these powers to a conjoint body of examiners, it becomes very difficult to understand why provincial candidates, at least, should care to belong to them, or why the public should prolong their existence. I should regret their extinction, because I value them as productive of professional strength and of *esprit de corps*. It is by such unions that the medical profession possesses political power and influence. The effect of their absence may be seen in such incoherent professions as the merchant navy, which contains men of high qualifications, but possessing small power, from want of bonds of union such as the medical corporations afford. The only bodies which are likely to be long survivors of a conjoint examining system are the universities, for they have specific teaching functions, which would still remain after the corporations have been swallowed by the ogre of conjoint examinations. Should the State, under the influence of the popular cry, assume the function of examination, it would be productive of the least evil, if it limited that to strictly clinical subjects. The teaching bodies would then occupy themselves with laying down a sound scientific and systematic basis of professional knowledge; while the State would gain assurance that the practitioner could apply his science to the actual practice of his profession. A second contingency is possible, for present State interference may be the future forerunner of free trade in medicine; because, when the corporations succumb to the feeling of their inutility, and the State becomes disappointed with the results of a minimum examination, medical men as individuals may have to submit to whatever relations the State cares to establish with them. When legal recognition is asked by medical men from the State, it has a right to fix their qualifications in the interest of the public. That right follows legal recognition, and the bestowal of civil rights, but the State is not bound to repress irregular practitioners who demand no recognition; and the time may come, when the profession has yielded itself to the influence of the State, that the latter may look upon regular and irregular practitioners as outside its functions altogether. In other regions of politics—as, for instance, in regard to religion—there is a tendency for the State to cut itself adrift from complications of this sort. Under the present system the medical profession is in no danger, for it regulates its own affairs, and has little connection with the State. The less it has to do with it the better, if the dignity and independence of the profession be consulted. The Medical Council is not supported by imperial taxation, but by professional contributions. Though it is not constituted with that popular representation which ought to be the basis of such an assembly, it is in theory and in fact a representative body. Into this the State also sends members of the profession, always men of a representative character; and as long as it continues to do so, its right is not likely to be questioned, though it is doubtful in principle. The Medical Council needs reform, but this may be effected without subverting the teaching and examining functions of universities and corporations. I am sure, when the medical profession realises the disastrous effects which uniform examining systems have produced in other countries on national intellectual development, that it will be slow to introduce them into this kingdom, or to relinquish the independence of the profession for the doubtful advantages of direct State recognition. No doubt the Medical Council ought to take ample securities, either by efficient inspection or by participation in examinations, that every separate examining board never descends below a minimum standard of qualifications; but, in doing this, so far from seeking uniformity in examinations, they should encourage variety, and should welcome all aims at higher qualifications on the part of the examining bodies, stimulated to differentiation by whatever methods or subjects their teaching staffs choose to introduce. It would, of course, be possible in a central examining system to have degrees of qualifications; but such a plan would assuredly destroy variety in teaching, still more effectually than a minimum test, because it would suppress university degrees and corporation honours, and substitute State uniformity in honours and in the means of attaining them.

After what I have said, you will see how impossible it is for me, as representing two Scotch universities, to yield to a popular cry of a one-portal system. It is a matter of indifference to Oxford, Cambridge, and the London University, whether they accept or refuse such a system. Their medical degrees, taken altogether, do not equal one of the universities which I have the honour to represent. The teaching functions of the English universities, as regards the professions, have little more than a nominal existence. The Scotch universities, both as to teaching and graduation, are in most intimate connection with the people of Scotland, and derive their whole strength from them. You recollect that even Hercules was not a match for the Libyan giant Antæus, as long as he was in contact with his mother earth, whence all his strength was derived; but when Hercules lifted the giant from the earth he lost his power, and was easily squeezed to death. The Scotch universities feel that a conjoint scheme of examination would part them from the people, and turn their strength into weakness. In Scotland there is one university student to every 860 of the population; but in England there is only one to 4020. The Scotch professional students are not unfrequently poor, yet they struggle to obtain a high education through their universities; for these are little more costly to them than the extra-academical schools. But, if you raise a conjoint examining scheme, to provide a minimum qualification, leaving to the universities the mere ornamental position of offering a more extended curriculum and higher qualifications, you expose the poor students to an irresistible temptation to be satisfied with the minimum, and to neglect the maximum. Academical teaching and honours in Scotland would then pass from the poor to the rich, as they have done in England, and the Scotch universities would be severed from the people, the sole source of their strength. With the remembrance of what happened to Antæus of old, are you surprised that they cling with all their force to the people, and decline to be severed from them, lest they receive the embrace of death from some Hercules in the guise of a medical officer of the Privy Council or Local Government Board? The Scotch universities will cordially welcome any system of thorough inspection of their examinations, on the part of the Medical Council, or they will willingly receive accessory examiners, who may be appointed by the Council; but they resolutely oppose a concentration of examinations, which all experience has shown to be most detrimental to higher intellectual culture.

I have now finished, and I trust I have convinced you that it is not only possible, but easy, to put our universities into harmony with active professional training. To do so, is only to bring them back to their original purpose of liberalising the professions. But liberal culture must have a wider meaning than it has now, if this harmony be re-established. Each profession has its own foundation of liberal culture. At present the universities try to build all professions on one uniform foundation, though this is as foolish as it would be to build a palace, a gaol, or an infirmary, on a single ground-plan common to all. The professions have indicated, by their special literary examinations, what their several foundations should be; and if the universities know how to extend their obligations to modern society, they should have little difficulty in again assuming their original purpose of affording a liberal culture to the professions. The universities would thus gain in strength, and the professions in dignity and in efficiency.

ON DILATATION OF THE CERVIX UTERI.

By HEYWOOD SMITH, M.D.Oxon.,
Physician to the Hospital for Women and the British Lying-in Hospital.

THE subject of the mechanical dilatation of the cervix uteri is of such importance, that its free ventilation in this JOURNAL should be welcomed by all gynæcologists; for, in treatment requiring special manipulation, improvement is to be looked for in proportion as the various workers discuss their various methods of procedure, and the details of their several mechanical appliances. Dr. Matthews Duncan's paper was characterised by his usual exactitude and method, and in his conclusion the following sentence contains the summary of his observations:—"It will be admitted that dilatation quickly, or by instruments which are not allowed to remain, is safer than, and, therefore, preferable to, dilatation slowly, or by instruments which are left for hours or a day in the passages."

My object in the present communication is partly to uphold the wisdom of this sentence, and partly to answer some objections which